

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application. Applicants have submitted a new complete claim set showing any marked up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Listing of Claims:

1. (Currently Amended) A method of managing a data access system configured to transfer data over a communication network between a server system and a plurality of user sites in response to requests from network browsers at the user sites the method comprising:

monitoring a network browser of a first user site of the plurality of user sites to obtain performance data of the data access system, the performance data including performance metrics of a data transfer operation in the data access system performed in response to a network browser request initiated by a user of the first user site, the monitoring being controlled by a monitoring agent resident at the first user site;

creating preliminary summary data of the monitored performance data;

transmitting data indicative of the preliminary summary data from the monitoring agent;

receiving the data indicative of the preliminary summary data transmitted from the monitoring agent;

collecting a quantity of the data received;

summarizing the quantity of the data collected to produce summarized performance data,
wherein the summarizing comprises correlating the collected data with one or more factors of interest to produce one or more different types of summarized performance data; and

storing the summarized performance data into a database.

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

2. (Previously Presented) The method of claim 1 wherein the quantity of the data collected represents performance of the data access system for a specific time interval.

3. (Original) The method of claim 2 wherein the time interval is 15 minutes.

4. (Previously Presented) The method of claim 3 wherein the performance data includes a timestamp identifying a time when the performance data was observed and wherein the collecting comprises collecting the performance data that was observed during the same time interval.

5. (Previously Presented) The method of claim 1 further comprising, before receiving the performance data:

receiving data indicative of the performance of a plurality of data access systems from a plurality of performance monitoring agents disposed at the plurality of user sites; and

filtering the data received to pertain to a selected data access system.

6. (Currently Amended) The method of claim 1 wherein the one or more different types of summarized performance data are based on at least one of subscriber preferences, user site access speed and domain type of the collected data ~~performance data is correlated to factors of interest.~~

7. (Original) The method of claim 1 wherein the server system comprises at least one HyperText Transfer Protocol (HTTP) server.

8. (Original) The method of claim 7 wherein the performance data comprises a summary of

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

performance metrics for a HTTP page.

9. (Previously Presented) The method of claim 1 further including using the stored summarized performance data as a basis for ascertaining quality of service conditions of the data access system.

10. (Previously Presented) The method of claim 1 further including calculating further summarized data using the stored summarized performance data.

11. (Currently Amended) A performance management system for managing a data access system configured to transfer data over a communication network between a server system and a plurality of user sites in response to requests from the user sites, the performance management system comprising:

means for monitoring a network browser of a first user site of the plurality of user sites to obtain performance data of the data access system, the performance data including performance metrics of a data transfer operation in the data access system performed in response to a network browser request initiated by a user of the first user site, the monitoring means including a monitoring agent resident at the first user site configured to transmit data indicative of the performance data;

means for creating preliminary summary data of the monitored performance data;

means for receiving data indicative of the preliminary summary data transmitted from the monitoring agent;

means for collecting a quantity of the data received;

means for summarizing the quantity of the data collected to produce summarized performance data, wherein the summarizing comprises correlating the collected data with one or more factors of interest to produce one or more different types of summarized performance data;

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

and

means for storing the summarized performance data into a database; and

means for utilizing the stored summarized performance data as a basis for ascertaining quality of service conditions of the data access system.

12. (Currently Amended) A performance management system that monitors data transferred between at least one remote site and at least one user site, comprising:

a network browser disposed on a first user site of the at least one user site and configured to browse the at least one remote site, in response to a request by a user of the first site, for transferring data between the at least one remote site and the first user site;

a client that resides on the first user site of the at least one user site and is configured to collect performance data including performance metrics of a data transfer operation initiated by a network browser request, initiated by a user of the first site, from the network browser, the data transfer operation effecting data transfer between the first user site and the at least one remote site, the performance data being associated with individual web page object retrievals; and

an agent in communication with the client and residing on the first user site, the agent being adapted to create preliminary summary data of the performance data, wherein the preliminary summary data includes summaries of at least the individual web page object retrievals from the at least one remote site, wherein at least a portion of the preliminary summary data is correlated with one or more factors of interest to produce one or more different types of summarized performance data.

13. (Currently Amended) A performance management system that monitors data transferred between at least one remote site and at least one user site, comprising:

a network browser disposed on a first user site of the at least one user site and configured to browse the at least one remote site, in response to a request by a user of the first site, for

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

transferring data between the at least one remote site and the first user site; and

a client application residing on the first user site of the at least one user site, the client application comprising:

a data gathering module that is adapted to collect performance data of data transfer operations that effect data transfer between the first user site and the at least one remote site initiated by network browser requests initiated by a user of the first user site, the performance data including at least communication data indicative of network performance statistics for data transfers and application data indicative of application performance statistics of the network browser, the performance data being associated with individual web page object retrievals; and

an agent that is adapted to create preliminary summary data from at least the performance data for transmission to at least one server from the client application, wherein the preliminary summary data includes summaries of at least the individual web page object retrievals from the at least one remote site, wherein at least a portion of the preliminary summary data is correlated with one or more factors of interest to produce one or more different types of summarized performance data.

14. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to simultaneously integrate with at least a network level interface and an application level interface for measurement and collection of the communication data and the application data.

15. Canceled.

16. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to combine the collected performance data into a single page performance record.

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

17. Canceled.

18. (Previously Presented) The performance management system according to claim 13, wherein the received performance data is used to determine overall usage of a data access system.

19. (Previously Presented) The performance management system according to claim 13, wherein the received performance data is used to ascertain a quality of service based on an aggregated end user response to a data access system.

20. (Previously Presented) The performance management system according to claim 13, wherein the received performance data is used to analyze aggregated end user response based on actions taken within a data access system and wherein the aggregated end user response is used to infer end user behavior.

21. (Previously Presented) The performance management system according to claim 20, wherein the at least one server is configured to use the received performance data to produce reports of the received data.

22. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to buffer page performance measurements for transmission or internal assessment.

23. (Previously Presented) The performance management system according to claim 22, wherein the client application is adapted to transmit the buffered page performance measurements in response to instruction from the at least one server or in response to the internal assessment.

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

24. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to respond to and transmit a configurable number of subsequent page performance measurements based on a set of received rules including a number of pages to transmit or a duration of time to transmit subsequent pages.

25. Canceled.

26. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to request and cache, for a configurable period of time, metrics associated with objects and load operations that correspond to the individual web page object retrievals from the at least one remote site.

27. (Previously Presented) The performance management system according to claim 26, wherein the objects comprise graphical and non-graphical web page components.

28. (Previously Presented) The performance management system according to claim 27, wherein the objects comprise images, plug-ins, page frames, applets and cascading style sheets associated with web pages and web frames.

29. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to transmit predefined performance measurements based on instruction received from the at least one server.

30. (Previously Presented) The performance management system according to claim 29, wherein the client application transmits the predefined performance measurements based on metrics

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

associated with at least one of objects and load operations that correspond to the individual web page object retrievals.

31. (Previously Presented) The performance management system according to claim 29, wherein the client application transmits the predefined performance measurements based on instructions received from the at least one server for selected objects that correspond to the individual web page object retrievals.

32. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to perform network operations, including diagnostic tests based on instructions received from the at least one server.

33. (Previously Presented) The performance management system according to claim 32, wherein the client application performs the network operations triggered by metrics associated with at least one of objects and load operations that correspond to the individual web page object retrievals.

34. (Previously Presented) The performance management system according to claim 32, wherein the client application performs the network operations triggered by instructions received from the at least one server for selected objects that corresponds to the individual web page object retrievals.

35. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to respond to instructions received from the at least one server for a duration of time.

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

36. (Previously Presented) The performance management system according to claim 35, wherein the client application responds to the instructions for the duration of time based on metrics associated with at least one of individual objects and load operations that correspond to the individual web page object retrievals.

37. (Previously Presented) The performance management system according to claim 35, wherein the client application responds to the instructions for the duration of time based on instructions received from the at least one server for selected objects that correspond to the individual web page object retrievals.

38. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to communicate with an end user via a graphical interface.

39. (Previously Presented) The performance management system according to claim 38, wherein the client application initiates communication with the end user based on metrics associated with at least one of individual objects and load operations that correspond to the individual web page object retrievals.

40. (Previously Presented) The performance management system according to claim 38, wherein the client application initiates communication with the end user based on instructions received from the at least one server for selected objects that correspond to the individual web page object retrievals.

41. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to communicate with an end user via a graphical interface based on metrics associated with at least one of individual objects and load operations, wherein the

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

metrics include at least one of an observed set of page performance measurements, wait times, subsequent number of page visits, geography, or domain abandonment.

42. (Previously Presented) The performance management system according to claim 13, wherein the at least one server is adapted to provide the agent with instructions associated with a selected object, wherein the instructions include at least one of measurement requests, threshold values, user geography, user page identification, user Internet service provider, and user hardware.

43. (Previously Presented) The performance management system according to claim 13, wherein the at least one server is adapted to reply with instructions associated with selected objects including at least one of measurement requests, threshold values, and an aggregated set of received measurements from a subset of agents of the at least one user site.

44. (Previously Presented) The performance management system according to claim 13, wherein the client application is adapted to retrieve and alter a current software version residing on the user site based on instructions from the server.

45. (Previously Presented) The performance management system according to claim 44, wherein the at least one server is adapted to determine and initiate software version alterations based on version information.

46. (Previously Presented) The performance management system according to claim 13, wherein the at least one server is adapted to collect, aggregate, and display performance data associated with predefined individual objects measured by the agent.

47. (Previously Presented) The performance management system according to claim 13, wherein

Type of Response: Amendment
Application Number: 09/825,164
Attorney Docket Number: 317332.02
Filing Date: April 3, 2001

the at least one server is adapted to store, display and determine trends based on performance data that is associated with individual objects measured by the agent.

48. (Previously Presented) The performance management system according to claim 13, wherein the at least one server is adapted to collect and aggregate performance data for comparison to predefined performance based threshold settings.

49. (Previously Presented) The performance management system according to claim 13, wherein the at least one server is adapted to create, store, and evaluate performance thresholds settings based on at least one of metric values, metric value percentage differences, direct metric comparison with other metrics, historical metric values, and metric value rate of change calculations.

50. (Previously Presented) The performance management system according to claim 13, wherein the at least one server is adapted to monitor performance threshold settings and, if predetermined values are exceeded, provide automated user indications.

51. (Previously Presented) The method of claim 1 wherein the data transfer operation includes a stop data transfer request initiated by the user of the first user site.

52. (Previously Presented) The performance management system according to claim 13, wherein the application data are indicative of at least one of browser imposed latency, user experience, user reaction, and user tolerance to data transfer characteristics as measurable from the network browser.